

**Orthopaedic bench to improve the therapeutic condition of the spine and back****Technical field**

The present invention concerns the technology of orthopaedic equipment, specifically the equipment used for improving the condition of the spine and back.

**State of the art**

It is known that in health care facilities , several kinds of complex orthopaedic tools are used to put the spine under traction. Some simpler tools for domestic use are also known, as described in US patents 4103681, 3570479, 2533273.

The 4103681 patent shows equipment consisting of a table whose inclination can be adjusted through a mechanism with toothed wheels controlled by the patient.

The 3570479 shows equipment consisting of an overturning table at whose endings the feet or the head of the patient is secured.

In 2533273 it shows a bench inclined downwards to increase the blood flow to the neck and the face of the patient in order to cure skin problems.

The problem to be solved is to develop an orthopaedic device ,which is easy to use,affordable and effective. The solution proposed by the present invention improves the condition of the spine and back with an optimal combination of gentle decompression,correct positioning of knees and no concentration of stress on joints or ligaments.

**Description**

The invention is disclosed in details with reference to the figures of the drawings that are attached but are not restricted by these examples.

Figure 1 presents an orthopaedic bench with an upper surface that gradually inclines downwards.

Figure 2 presents a person supine on the bench. It can be noted that the person's head is oriented downwards and the legs are folded, with feet placed flatly on the ground.

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It should be pointed out that the knees are bent and at a higher position than the spine of the person lying on the bench. It should also be pointed out that the person lying in this position does not have to make any effort but simply lie in a resting position. In such a position the component of the body weight along the inclined planes exerts a gentle tensile action on the spine. Such longitudinal tension is an effect of natural gravity that favours the decompression of the spine. Both figures show clearly that the bench works without auxiliary tools such as belts, hooks or similar attachments.

The bench consists of the areas characterized by different surface qualities : the area inclined downwards has a surface of low ( smooth ) friction whereas in the upper zone the surface is of high friction.

In the figures the detail is marked as follows:

- 1 indicates the bench structure
- 2 indicates the smooth part inclined downwards
- 3 indicates the upper zone or seat of high friction
- 4 indicates the height of the bench with respect to the floor

The invention allows for several variations of practical development as far as the dimensioning, structural proportioning and technological choices of building materials are concerned.

Therefore, all therapeutic benches that feature the characteristics as basically described, illustrated and hereinafter claimed will be considered as being part of the protection sphere of present invention.